

AMENDMENTS

Please incorporate the following amendments to the subject application.

In the Claims:

1. (Currently Amended) A method for array design, comprising:
 - (a) selecting, by a customer, at least one array design parameter **and at least one gene of interest;**
 - (b) providing said **at least one** customer selected array design parameter **and said at least one gene of interest** to a vendor;
 - (c) **curating, by said vendor, a sequence for said at least one gene of interest;**
 - (d) **selecting, by said vendor, at least one probe specific for said curated sequence;**
 - (e) providing, by said vendor, at least one additional array design parameter; and
 - (d)(f) completing at least one array design according to **using said at least one customer-selected customer selected array design parameters parameter, said at least one vendor selected probe,** and said **at least one** vendor provided array design parameters **parameter.**
2. (Original) The method of claim 1, wherein said completing is carried out by said vendor.
3. (Original) The method of claim 1, wherein said completing is carried out by said customer.
4. (Currently Amended) The method of claim 1, wherein said array **design** is **for** a nucleic acid array, ~~and said customer-selected array design parameters are gene-based parameter selections.~~

5. (Currently Amended) The method of claim ~~[[4]]~~ **1**, wherein said at least one customer selected array design ~~parameters~~parameter comprises layout parameters.

6. (Currently Amended) The method of claim ~~[[4]]~~ **1**, wherein said at least one customer selected array design ~~parameters~~ parameter comprises probe parameters.

7. (Currently Amended) The method of claim ~~[[4]]~~ **1**, wherein said at least one customer selected array design ~~parameters~~ parameter comprises control probe parameters.

8. (Original) The method of claim 1, further comprising generating a visual interface for said customer, said visual interface providing a display with parameter selection options for said selecting.

9. (Currently Amended) The method of claim 8, wherein said generating said visual interface further comprises generating a visual display of an array layout for said customer, ~~based on~~ that includes said at least one customer selected array design ~~parameters~~parameter.

10. (Currently Amended) The method of claim 9, further comprising reviewing, by said customer, said at least one customer selected array design ~~parameters~~parameter, according to as shown on said visual display of said array layout.

11. (Currently Amended) The method of claim 9, further comprising revising, by said customer, said at least one customer selected array design ~~parameters~~parameter.

12 - 21. (Canceled)

22. (Currently Amended) An A gene-based array design system, comprising:

(a) means for selecting, by an array customer, at least one array design parameter gene of interest;

(b) means for providing said at least one customer selected array design parameter gene of interest to a vendor;

(c) means for ~~providing~~ curating, by said vendor, sequence information for said at least one additional array design parameter customer selected gene of interest; and

(d) means for selecting, by said vendor, a plurality of nucleic acid probes specific for said customer selected gene of interest; and

(e) means for completing at least one array design according to said customer selected array design parameters and said vendor provided array design parameters that includes at least one of said vendor selected nucleic acid probes specific for said customer selected gene of interest.

23 - 26. (Canceled)

27. (Currently Amended) A method for gene-based array design, comprising:

(a) selecting, by a customer, at least one gene of interest;

(b) ~~selecting, by said customer, at least one probe parameter for said gene of interest~~ providing said at least one customer selected gene of interest to a vendor;

(c) ~~selecting, by said customer, at least one array layout parameter for said gene of interest;~~

(d) ~~curating, by [[a]]~~ said vendor, sequence information for said at least one customer selected gene of interest; and

(e) ~~(d)~~ selecting, by said vendor, a plurality of nucleic acid probes specific for said at least one customer selected gene of interest; and

(e) completing at least one array design that includes at least one of said vendor selected nucleic acid probes specific for said at least one customer selected gene of interest.

28. (Currently Amended) The method of claim 27, further comprising ~~synthesizing nucleic acid probes on a substrate surface, according to~~ **fabricating** said ~~completed~~ **at least one designed** array design to provide said in situ array.

29 - 30. (Canceled)

31. (New) The method of claim 27, wherein said completing is carried out by said vendor.

32. (New) The method of claim 27, wherein said completing is carried out by said customer.

33. (New) The method of claim 27, further comprising selecting, by said customer, other array design parameters.

34. (New) The method of claim 33, wherein said other customer selected array design parameters comprise layout parameters.

35. (New) The method of claim 33, wherein said other customer selected array design parameters comprise probe parameters.

36. (New) The method of claim 33, wherein said other customer selected array design parameters comprise control probe parameters.

37. (New) The method of claim 27, further comprising generating a visual interface for said customer, said visual interface providing a display with parameter selection options for said selecting.

38. (New) The method of claim 37, wherein said generating said visual interface further comprises generating a visual display of an array layout for said customer, that includes said customer selected array design parameters.

39. (New) The method of claim 38, further comprising reviewing, by said customer, said customer selected array design parameters, according to said visual display of said array layout.

40. (New) The method of claim 38, further comprising revising, by said customer, said customer selected array design parameters.

41. (New) The method of claim 28, wherein said array fabrication is in-situ array fabrication.